

WHAT IS CLAIMED IS:

1. An environmental impact estimation apparatus comprising:

a storage device which stores information
5 concerning a plurality of first objects to be reused
and a plurality of second objects to be recycled; and
a modeling device which perform life cycle
modeling to generate a life cycle model, the life cycle
modeling including reading the information concerning
10 the first objects and the second objects from the
storage device, selecting some of the first objects and
second objects which are diverted to at least one new
product from a recovery product using the information,
and combining some of the first objects and the second
15 objects to fabricate the new product.

2. An apparatus according to claim 1, further
comprising an environmental impact/cost estimating
device which estimates an environmental impact and cost
based on the life cycle model generated by the modeling
20 device.

3. An apparatus according to claim 2, which
further comprises a data base which stores
environmental impact information and cost information,
the environmental impact information concerning
25 respective stages of material acquisition for products,
manufacturing, distribution, use, recovery and
discharging, and wherein the environmental impact/cost

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estimating device computes the environmental impact and cost of the entire series of multi-generation products based on information generated from the data base and the life cycle model obtained by the modeling device.

5 4. An apparatus according to claim 1, further comprising a predicting device which predicts a supply quantity of at least one of the first and second objects using the life cycle model generated by the modeling device, and an environmental impact/cost
10 estimating device which estimates environmental impact and cost to be burdened in the reuse or recycle from a prediction result obtained by this predicting device.

 5. An apparatus according to claim 4, wherein the
15 predicting device defines a period of using a product targeted for reuse by the life cycle modeling as a shorter value of a product worth life and a product useful life, and approximate-predicts a distribution of the number of manufactured products targeted for reuse by using an average number of manufactured products
20 per unit period obtained by dividing the number of manufactured products by a manufacturing period.

 6. An environmental impact estimating apparatus according to claim 5, wherein the predicting device defines a manufacturing period from the start of
25 manufacture to the entry of a next generation model.

 7. An apparatus according to claim 5, wherein the predicting device defines an estimated manufacturing

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period as a period from the start of manufacture to the product worth life.

8. An apparatus according to claim 4, wherein the predicting device defines a period of using a product targeted for reuse as a shorter value of the product worth life and product useful life by the life cycle modeling, and approximate-predicts a distribution of manufactured products in number by using a triangle distribution having its peak value during entry of a next generation model.

9. An apparatus according to claim 4, which further comprises a data base storing environmental impact information and cost information, the environmental impact concerning respective stages of material acquisition for products, manufacturing, distribution, use, recovery and discharging, and wherein the environmental impact/cost estimating device computes the environmental impact and cost of the entire series of multi-generation products based on information generated from the data base and the life cycle modeling result caused by the modeling device.

10. A plan aiding apparatus using a recovery product, comprising:

a storage device which stores information concerning reuse and recycle objects;

a modeling device which performs life cycle modeling to generate a life cycle model, the life cycle

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5 using the information, and combining selected ones of
the objects to fabricate the new product; and

an object symbol of the new product on a screen,
and display input windows in correspondence with the
object symbols and symbol to associate input product
information with the object symbols and symbol, the
input product information containing at least any of
information on product name, previous model, product
useful life, product worth life, manufacturing start
time, and number of manufactured products.

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20      storing information concerning first objects to be
      reused and second objects to be recycled in a storage;

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25 objects which configure a product from the storage
device, selecting some of the first and second objects
which are diverted to a new product from a recovery

product using the information, and combining selected ones of the first and second objects to fabricate the new product; and

5 estimating an environmental impact and cost based on the life cycle model.

12. A method according to claim 11, which further includes preparing a data base which stores environmental impact information and cost information, the environmental impact information concerning
10 respective stages of material acquisition for products, manufacturing, distribution, use, recovery and discharging, and wherein the estimating step includes computing the environmental impact and cost of the entire series of multi-generation products based on
15 information generated from the data base and the life cycle model.

13. A method according to claim 11, further comprising predicting a supply quantity of at least one of the first and second objects using the life cycle
20 model, and estimating environmental impact and cost to be burdened in the reuse or recycle from a prediction result obtained by the predicting step.

14. A method according to claim 13, wherein the predicting step includes defining a period of using
25 a product targeted for reuse by the life cycle model as a shorter value of a product worth life and a product useful life, and approximate-predicting a distribution

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of the number of manufactured products targeted for reuse by using an average number of manufactured products per unit period obtained by dividing the number of manufactured products by a manufacturing period.

15. A method according to claim 14, wherein the predicting step includes defining a manufacturing period from the start of manufacture to the entry of a next generation model.

16. A method according to claim 14, wherein the predicting step includes defining an estimated manufacturing period as a period from the start of manufacture to the product worth life.

17. A method according to claim 13, wherein the predicting step includes defining a period of using a product targeted for reuse as a shorter value of the product worth life and product useful life by the life cycle model, and approximate-predicting a distribution of manufactured products in number by using a triangle distribution having its peak value during entry of a next generation model.

18. A method according to claim 13, which further comprises preparing a data base storing environmental impact information and cost information, the environmental impact information concerning respective stages of material acquisition for products, manufacturing, distribution, use, recovery and

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discharging, and wherein the estimating step includes
computing the environmental impact and cost of the
entire series of multi-generation products based on
information generated from the data base and the life
5 cycle model.

19. A plan aiding method using a recovery product,
comprising:

storing information concerning reuse and recycle
objects in a storage;

10 performing life cycle modeling to generate a life
cycle model, the life cycle modeling including reading
information concerning objects which configure a
product from the storage, selecting objects to be
diverted to a new product from the recovery product
15 using the information and combining selected ones of
the objects to fabricate the new product;

allocating combined object symbols targeted for
diversion and an object symbol of the new product on
a screen; and

20 displaying an input screen in correspondence with
the object symbols and symbol to associate input
product information with the object symbols and symbol,
the input product information containing at least any
of information on product name, previous model, product
25 useful life, product worth life, manufacturing start
time, and number of manufactured products.

20. A predicting method for predicting product

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recovery comprising:

inputting worth life of a product, useful life of the product, a recovery rate, a product manufacturing period, and the number of products;

5 generating a distribution of the number of products by calculating the average number of products based on the manufacturing period and the number of products;

10 generating a distribution of the number of recovery products by setting a recovery period corresponding to the manufacturing period and calculating the number of recovery products based on the number of products and the recovery rate; and

15 determining a product recovery time by a shorter one of the product worth life and the product useful life.

21. A predicting method for predicting product recovery comprising:

20 inputting worth life of a product, useful life of the product, a recovery rate, a product manufacturing period, and the number of products;

generating a triangle distribution of the number of products, the triangle distribution having a height corresponding to a peak of the number of products;

25 generating a triangle distribution of the number of recovery products by setting a recovery period corresponding to the manufacturing period and

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23. A computer program according to claim 22,

which further includes instruction means for
instructing the computer processor to use a data base
which stores environmental impact information and cost
information, the environmental impact information
5 concerning respective stages of material acquisition
for products, manufacturing, distribution, use,
recovery and discharging, and wherein the estimating
instruction means includes instruction means for
instructing the computer processor to compute the
10 environmental impact and cost of the entire series of
multi-generation products based on information
generated from the data base and the life cycle model.

24. A computer program according to claim 22,
further including instruction means for instructing the
15 computer processor to predict a supply quantity of at
least one of the first and second objects using the
life cycle model, and instruction means for instructing
the computer processor to predict environmental impact
and cost to be burdened in the reuse or recycle from
20 a prediction result obtained by a processing for
predicting the supply quantity.

25. A computer program according to claim 24,
wherein the predicting instruction means includes
instruction means for instructing the computer
25 processor to define a period of using a product
targeted for reuse by the life cycle model as a shorter
value of a product worth life and a product useful life,

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and instruction means for instructing the computer processor to approximate-predict a distribution of the number of manufactured products targeted for reuse by using an average number of manufactured products per unit period obtained by dividing the number of manufactured products by a manufacturing period.

26. A computer program according to claim 25, wherein the predicting instruction means includes instruction means for instructing the computer processor to define a manufacturing period from the start of manufacture to the entry of a next generation model.

27. A computer program according to claim 25, wherein the predicting instruction means includes instruction means for instructing the computer processor to define an estimated manufacturing period as a period from the start of manufacture to the product worth life.

28. A computer program according to claim 24, wherein the predicting instruction means includes instruction means for instructing the computer processor to define a period of using a product targeted for reuse as a shorter value of the product worth life and product useful life by the life cycle model, and instruction means for instructing the computer processor to approximate-predict a distribution of manufactured products in number by using

a triangle distribution having its peak value during entry of a next generation model.

29. A computer program according to claim 24,
which further comprises instruction means for
5 instructing the computer processor to use a data base
storing environmental impact information and cost
information, the environmental impact information
concerning respective stages of material acquisition
for products, manufacturing, distribution, use,
10 recovery and discharging, and wherein the estimating
instruction means includes instruction means for
instructing the computer processor to compute the
environmental impact and cost of the entire series of
multi-generation products based on information
15 generated from the data base and the life cycle model.

30. A computer program stored on a computer
readable medium for aiding a plan, comprising:
instruction means for instructing a computer
processor to store information concerning reuse and
20 recycle objects in a storage;

instruction means for instructing the computer
processor to perform life cycle modeling to generate a
life cycle model, the life cycle modeling including
reading information concerning objects which configure
25 a product from the storage, selecting objects to be
diverted to a new product from the recovery product
using the information and combining selected ones of

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instruction means for instructing the computer processor to generate a distribution of the number of

5 instruction means for instructing the computer processor to determine a product recovery time by a shorter one of the product worth life and the product useful life.

instruction means for instructing a computer processor to input worth life of a product, useful life of the product, a recovery rate, a product manufacturing period, and the number of products;

20 instruction means for instructing the computer
processor to generate a triangle distribution of the
number of recovery products by setting a recovery
period corresponding to the manufacturing period and
calculating the number of recovery products based on
25 a recovery rate corresponding to the number of
products; and

instruction means for instructing the computer

processor to determine a product recovery time by
a shorter one of the product worth life and the product
useful life.

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